

The Dipterous Genus *Scellus*, with one new Species.

By J. M. ALDRICH, Moscow, Idaho.

This small genus, with *Hydrophorus* and *Liancalus*, forms a distinct subfamily of the Dolichopodidæ, characterized by having the last section of the fifth vein shorter than the posterior crossvein, the hairs of the back of the head below forming a scattered beard (instead of a ruff in a single row bordering the eye), and hypopygium directed backward or downward, not turned forward under the venter.

Liancalus is readily distinguished from its near relatives by having slender fore femora and elongated fore coxæ. The difference between *Hydrophorus* and *Scellus* is not very striking when written down, but easily recognized in nature. *Scellus* has long spines on the under side of the fore femora, and distinct, narrow longitudinal lines on the thoracic dorsum; *Hydrophorus* has only small spines on the under side of the fore femora, and the dorsum unmarked with lines, or with very slight ones. The species of *Hydrophorus* always frequent the edges of water, and are often seen running over its surface. *Scellus*, however, is never seen at water, but is found on bark of trees, on the ground, or in grass (exceptionally, perhaps on stones).

Only six North American species of *Scellus* have been described, to which another is added in the present article.

***Scellus virago* new species.**

Large species, with yellowish-brown wings and greatly elongated antennæ, with apical arista.

Male. Head densely yellowish-brown pollinose, the face more ochre yellow; eyes elongated vertically, the face slender; about eight black bristles behind the eye above, and a pair on the occiput; antennæ inserted high up, as long as the vertical diameter of the eye, slender, the third joint nearly twice as long as the first two, with a short, two-jointed, apical arista.

Thorax thickly dusted, still with a faint coppery or rosaceous reflection showing through on dorsum and sides. Pollen of the dorsum grayish in the middle, with two very fine lines in the center, enclosing the single row of six or eight tiny acrostichal bristles; dorsocentral

bristles in two rows, very small, except the posterior two of each row, with slight dots from which the separate bristles arise; along each side of the dorsum a darker pollinose stripe above the pleural suture; before the scutellum a median darker stripe, continuing the two fine median lines to the scutellum (the insertion of the pin prevents my describing this more closely); scutellum more bright coppery red, with two bristles; pleura uniformly and densely pollinose with grey, the coppery ground color but little visible. Halteres yellow.

Abdomen less pollinose and more coppery than the thorax, of four well-developed segments, the others modified; fourth segment one-third as long as the preceding one; the "anal appendages" arise on the dorsal side, between the fourth and fifth segments—they are a pair of delicate organs, black at base, whitish beyond, each ending in a spoon-shaped, orange-colored enlargement, which bears a dense series of small, dark hairs along the outer side and a tuft of similar ones on the inner apical angle; third abdominal segment protuberant below, the grasping organs of the hypopygium projecting behind it.

Legs blackish-green, somewhat pollinose, of complicated structure. Fore femora with the usual spines beneath; fore tibiae with a row of stiff hairs on the inner side beyond the middle and a stout thumb-like curved claw on the anterior side before the end; also, with a striking lobe or lappet on the inner side of the tip. Middle femora slender, a little arcuated; middle tibiae with a row of erect bristles on the anterior side past the middle, and curled long hairs on the posterior side at the tip. Hind femora, tibiae and tarsi of plain structure, the tibiae without noticeable bristles at the tip.

Wings brownish-yellow on the basal half, more brown apically; a large brown spot on the posterior crossvein and another on the arcuation of the fourth vein, before and beyond the latter vein is widely bordered with yellow. Length, including appendages, 7 mm.; of wing, the same.

Female. Antennae much shorter, the third joint only a little longer than the other two, arista apical, a little longer than in the male. Abdomen of five equal segments. Legs destitute of striking modifications, however, the spines under the fore femora are as large as in the male. Wings as in the male. Length, 7.2 mm.

The type is a male, collected by myself, October 11, 1905, in the salt marshes nearest to Palo Alto, Cal. It was stalking over the ground in a bare spot, and looked more to me like a Tipulid than anything else.

I have also a male and a female cotypes, collected in the same vicinity by R. W. Doane, on October 11, 1906. He studied the courtship of the species at that time. (*Vide postea*, page 136).

NOTES ON THE DESCRIBED SPECIES.

Scellus exustus Walk. This large, black species is so striking that there can be no doubt that it was the one described by Walker, although he mentioned only a few of its characters. I have specimens from Brookings, South Dakota, Montana, and Moscow, Idaho. I have only collected it in beating about the grass of low meadows, and have never seen a specimen before I got it into my net; hence, I do not know its exact habitat.

Scellus avidus Loew. This I have only seen in a set of specimens given to me by Professor Wm. M. Wheeler, collected by him September 11, 1895, on Hunter's Creek, Wyoming. The type locality was Fort Resolution, Hudson's Bay Territory. It is one of the larger species, the tooth on the anterior side of the fore tibia is near the base; the ribbon-like anal appendages are white, blackish at base and tip, with a tuft of brown hairs on the end of the black, spoon-shaped apical part.

Scellus spinimanus Zetterstedt. This European species was recognized by Loew in material from Fort Resolution, Hudson's Bay Territory. As far as I know, no one has seen it from North America since. It should be easily recognizable.

Scellus monstrosus O. S. I examined a male of this species in the University of Kansas collection, captured at Estes Park, Colorado; it is the only specimen I ever saw. The type locality was British Columbia. It has many characters in common with *virago*, differing in the antennal structure and in having a long, curved spine at the apex of the hind tibia, etc.

Scellus vigil O. S. Type locality, Webber Lake, California, "resting on stones on hillsides." No other species of the genus is known to rest on stones, and I found this rather common ten years ago in the vicinity of Moscow, Idaho, on trunks of pine trees; hence, I am a little doubtful about the data of Osten Sacken. I also got the species on the side of the university building, however. It is a small species, with pale wings. I have got no more specimens for some years now.

Scellus filiferus Loew. I collected this at Custer, South Dakota, on pine trunks, and near Moscow, Idaho, in the same

situation. It was not common in either locality, and I have not found a specimen in ten years.

I wish the few remarks above about the habitat of species of this genus might interest collectors in scanning trunks of trees more closely. Not only *Scellus*, but *Medeterus* and *Neurigona*, of the Dolichopodidæ, are found there, as well as flies of other families.

Students of secondary sexual characters could not find a more interesting group than *Scellus*; for lack of space, I have not half described the peculiarities of the male in *virago*, and all the species have nearly as many male characters.

TABLE OF SPECIES OF SCELLUS, BASED ON THE MALES.

1. Third antennal joint elongated, with apical arista **virago** n. sp.
Third antennal joint not elongated, with dorsal arista 2.
2. Hind femora greatly thickened and arcuated, wings wholly blackened.
exustus Walker.
Middle femora arcuated, thickened towards the middle, wings not entirely blackened 3.
Middle and hind femora not arcuated **avidus** Loew.
3. Apical half of the wings black, thorax above with snow-white pollen.
spinimanus Zetterstedt.
Not as described 4.
4. Anal appendages terminating in spoon-shaped, orange-colored enlargements **monstrosus** Osten Sacken.
Anal appendages not enlarged at tip 5.
5. Hind femora along the middle with abundant, long white pile . **vigil**
Osten Sacken.
Hind femora without white pile **filiferus** Loew.

Notes on the Habits of *Scellus virago* Ald.

By R. W. DOANE, Stanford University.

The broad salt marshes bordering San Francisco Bay near Stanford University are for the most part covered with the common salt grass (*Salicornia ambigua*), but here and there are larger or smaller spots entirely devoid of any vegetation and glistening white with a thin encrustation of salt. These are favorite places with many of the insects that live on the marsh, seeming to be a sort of general rendezvous, where they can bask in the sun, carry on their courtships or build